



## **How and why the Priority Habitat maps change**

### **13<sup>th</sup> Edition of the Natural Heritage Atlas; Effective October 1, 2008**

#### **1. Changes to MESA species list and observation occurrences**

- Changes to the MESA List – Because the biological status of the state's vulnerable species changes over time, the MESA list is re-evaluated every two years and listing changes are considered. New Priority Habitats are *added* when species are added to the MESA list and Priority Habitats are *removed* when they were delineated for species removed from the MESA list. On August 8, 2008, based on new scientific information, the Four-toed Salamander and six other listed species were officially removed from the MESA list and no new species were added. Consequently the Priority Habitats for the delisted species have been removed for the 13<sup>th</sup> Edition of the Natural Heritage Atlas.
- New observations of MESA-listed species are added – Priority Habitats are added for new rare species observations that were not adequately documented prior to the publication of the previous Natural Heritage Atlas.
- Older observation records “expire” – As per the MESA regulations, Priority Habitats are removed if they were delineated based on observations that have a last observation date older than 25 years.

#### **2. Latest research about habitat utilization** – The scientific understanding of the habitat requirements and seasonal movements of many rare species improves with each new study in Massachusetts and through published conservation biology literature. For example, recent studies into habitat utilization by the Wood Turtle (*Glyptemys insculpta*) in Massachusetts suggest that this species does not utilize high gradient sections of perennial streams previously thought to be suitable.

#### **3. Regulatory effectiveness analysis** – The outcomes of the Natural Heritage and Endangered Species Program's (NHESP) regulatory reviews are evaluated and the effectiveness of regulation for the conservation of individual species in specific habitat types is determined. With certain areas of review where regulation was deemed ineffective the Priority Habitat maps have been revised to exclude those areas.

#### **4. Better aerial photographs and improved GIS data layers** – NHESP biologists utilize the latest technologies and spatial data to delineate habitats more accurately and precisely using GIS tools. These tools provide additional information on the suitability of habitat components for a variety of species, including changes to land use, vegetation cover, new residential developments, etc. The 2008 Natural Heritage Atlas is based on the latest statewide aerial photo coverage available (2005).

#### **5. Exclusion of sites with poor estimated viability** – Particularly for Species of Special Concern, NHESP excludes sites where the local population has a poor probability of persistence based on the size, condition, and deterioration in local habitat conditions.

### **Conclusion**

The 13<sup>th</sup> Edition of the Natural Heritage Atlas contains the best habitat mapping possible at this time and, while not including all documented habitat areas, does include the essential areas for supporting the various animal and plant species currently listed under MESA. We will continue to utilize new biological information and new technological tools to revise, update and fine-tune our Priority Habitat mapping with each new edition.